A PLATFORM TO SPEED UP IOT DEVELOPMENT

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IoT Thailand Market Forecast

Thailand IoT Spending will be $973 Million or 34,000 Million THB, with a 1600% growth rate from $57.7 Million in 2014.

Asia-Pacific IoT Spending will be $57.96 Billion in 2020, an increase from $9.96 Billion in 2014, with a 34% growth rate.

Source: Frost and Sullivan, 2014
IoT Enablers

- Cloud Computing
- Big Data
- Embedded
- Mobile
- Sensors
- Broadband Internet
IoT Components

- End Nodes
- Central Servers Or Cloud
- Connectivity
- Data Storage
Central Servers vs Cloud Infrastructure

Pro: full control of your servers
Con: tedious burden, server admin, capital investment

Pro: pay-per-use, no initial investment
Con: still need to install and configure servers, DB
Pains of IoT Development

Develop App
- Setup servers
- Setup DB
- Backup system
- Update patches
- Ensure stability and reliability

Develop Devices
- Manage users
- Authorize access
- Harden security
- Manage ownership
- Ensure stability and reliability
Emerging Technology Hype Cycle

Source: Gartner Hype Cycle 2016
Gartner Hype Cycle for Emerging Technologies, 2017

Source: Gartner Hype Cycle 2017
IoT Platform Market

Source: IoT Analytics 2016
IoT Platform Components

Connectivity Management
Device Management
Rule Engine
Data Storage
Data Visualization
Data Analytics
External Interfaces
Types of IoT Platform

- Generic
  - Smart Home
  - Smart Farm
  - Industrial
  - Smart City
  - Smart Retail
  - Smart Health
  - Smart Energy
  - Logistics
- Segment Focus
- Shared Resources
  - Public IoT Platform
  - Private IoT Platform
- Technical Depth
  - Connectivity Platform
  - Action Platform
  - Data Platform
  - Full-scale Platform
- Integration Approach
- One-Stop-Shop Platform
- Customizable White-Label Platform
450+ IoT Platforms
Generic & Public IoT Platforms

IBM Cloud

NETPIE

Microsoft Azure

amazon web services

ThingSpeak

Google Cloud Platform
NETPIE is Back-end of IoT Applications

back-end of IoT applications
NETPIE Real-time Communication

- Real-time, instant-messaging style of communication
- Support 2-way communication without public IP address
- Connection security through TLS
NETPIE Authentication & Authorization

- Patent-pending methods to support low-power IoT devices
- Digital signature for device authentication
- Dynamic authorization based on modified OAuth protocol
- Support various kinds of “things” e.g., computer, microcontroller, web browser
NETPIE Sensor Data History

- Sensor data logger for long-term data collection
- API and visualization tools for viewing historical data
NETPIE Customizable Dashboard

- Flexible, customizable dashboard
- Offer both web-based dashboard and stand-alone open-source dashboard for private web hosting
NETPIE client library

A Scalable multi-regional cloud platform

- C++ (ESP8266)
- C++ (ESP32)
- NodeJS
- C++ (Arduino)
- Android
- JAVA
- Python
- Javascript
- HTTP
- C#
- Javascript
- Python
- JAVA
- HTTP
Software Development Kit

Node.js  Python  Java  C#  Javascript  Android  Arduino

Raspberry Pi  MacOS  Windows  Linux  IOS  Android  Arduino  NodeMCU  ESP8266, ESP32
Overcoming Technical Challenges

Connect anything from anywhere

High availability

Scalable platform

Secure by design
NETPIE Traction

**NETPIE Research Project** started Jan, 2014

**NETPIE launched** Sept 16, 2015

**Voted most promising project for investment** NSTDA Investors’ Day Sept 9, 2016

- **2014**
- **2015**
- **2016**
- **2017**
- **2018**

NETPIE Usage

- **21,313 things**
  - 3x in past 12 months

- **9,943 accounts**
  - 5x in past 12 months

Prepare to spin-off
Competitive Advantages

1st to Market
Local Support
Flexible and Scalable
Affordable
Accommodate small devices
Strong User Community
CUSTOMERS AND USE CASES
Remote Gate

Smart Home

Source: type.co.th
Smart Home

We Deliver More

Weigh the benefits of moving to LED iLightPlus

www.iLightPlus.com
Automatic Fish Feeder

Smart Farm

ทศพล พรหมสุภา
ผศ.โชว์ "สมาร์ทฟาร์มกิจ" เป็นอุปกรณ์ที่เกษตรกรไทยทุกคนเข้าถึงได้ ด้วยต้นทุนต่ำสุดเพียง 1,000 บาท
Innovative IoT Farm

Smart Farm

Montree Saenlamool
CO and Air Quality Drones

Smart Environment
ระบบบริหารจัดการน้ำดื่มพร้อมการแจ้งเตือนอัตโนมัติ

การประชุมสืบเนื่องภาค : Provincial Waterworks Authority

รูปแบบการทำงานของระบบ ตรวจวัด แบบใหม่
Trash Sensor (Phuket Smart City)

Source: Traffy, NECTEC
Portable Energy Meter
Energy Management System

Source: Light and Sun Concept Co. Ltd.
Hay guy, My oil Temp. 35˚C and Pressure 12 Bar now. Ok?

Machine I have been working 12 Hours with 250 shot/min.

I got Die No.A please Upload Condition to me now!

Microcontroller + WiFi

Die + RFID

Production Line

My Sensors found Step1 Slowly

I'm Expired ! Don't use me

Oh no!, NG.4 pcs. No Good

Connector

NG. Box

I have been working 12 Hours with 250 shot/min.

Microcontroller + WiFi

Room

Someone turned on A/C at 23˚C and 4 lights

Machine

Hay guy, My oil Temp. 35˚C and Pressure 12 Bar now. Ok?

Microcontroller + WiFi

Machine

Benefit

• Quality Management
• Efficiency Management
• Energy Management
• Proactive Maintenance
• Traceability System
Products and Services

- **Public IoT Platform**
  - Freemium model
  - Public cloud

- **Private IoT Platform**
  - Dedicated resources
  - Enterprise-grade service

- **IoT Training**
  - Professional training
  - Education training

Free 100 credits no expiration! [https://netpie.io](https://netpie.io)
Upcoming Activities in 2018

โครงการขยายผล NETPIE IoT Platform สำหรับอุตสาหกรรม

เพื่อสร้างขีดความสามารถและความเข้มแข็งด้าน IoT ให้กับอุตสาหกรรมไทย ผ่านกิจกรรมพัฒนาบุคลากร และการให้บริการแพลตฟอร์ม
NETPIE Certified Trainers

Criteria
✓ Attend train the trainer workshop
✓ Passed a written test
✓ Passed an oral test

List of current NETPIE certified trainers
https://netpie.io/trainers
Come join us today and become Thailand’s IoT pioneer.
Demo

Pair up.
The first person scan this QR code.
Follow instructions.